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ABSTRACT

This paper examines the desirability and feasibility of expanding the effort committed to cooperative-type work experience programs. A data-based discussion is first provided of the current state of affairs in regard to cooperative education enrollment, student employment, and employer involvement in work experience efforts. In the next section, the major policy issues are examined that would affect the desirability and feasibility of expanding cooperative-type work experiences, including maintenance of program quality, student recruitment, changes in the workplace, readiness of students to benefit, legal constraints, cost to education, new approaches, and displacement of workers. The last section sets forth policy options that facilitate expansion. These federal options are suggested: targeted tax credits, flexibility in minimum wage, federal job opportunities, and vocational education and related legislation. State/local options suggested are closer linkages with general and college curricula, increased latitude to local districts, research and development, and shared control with business/industry/labor. (YLB)

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AN EXAMINATION OF THE DESIRABILITY OF EXPANDING COOPERATIVE-TYPE WORK EXPERIENCE EFFORTS

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TABLE OF CONTENTS

	Page
FOREWORD	iv
EXECUTIVE SUMMARY	v
INTRODUCTION	1
BACKGROUND	2
Current Status of Cooperative Education Enrollment	2
Student Employment	4
Employer Involvement in Work Experience Efforts	5
POLICY ISSUES	5
Maintenance of Program Quality	6
Recruiting Students	6
Changes in the Workplace	7
Readiness of Students to Benefit	7
Legal Constraints	8
Cost to Education	8
New Approaches	8
Displacement of Workers	9
POLICY OPTIONS	9
Federal Options	11
State/Local Options	12
REFERENCES	15

FOREWORD

During the months ahead, Congress will be examining the legislation governing vocational education. The purpose of this paper is to provide information that can help improve the linkages between vocational education and the business/industry community to those who will be involved in that process. It is the fourth in a series of policy information papers which are being developed by the National Center for Research in Vocational Education during 1981.

A number of people have generously contributed their time and thoughts to the development of this paper; special appreciation is extended to: Robert Bendotti, Arizona Department of Education; Caroll Curtis, Pennsylvania Department of Education; and Bill Gooch, Southern Illinois University.

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Robert E. Taylor
Executive Director
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EXECUTIVE SUMMARY

Improving the collaboration between business/industry and vocational education is an topic of significant importance for improving the quality of vocational training. The topic is multifaceted; however, the issue of on-site work experience for vocational students is one of particular importance.

The purpose of this paper is to examine the desirability and feasibility of expanding the effort committed to cooperative-type work experience programs. As part of the examination, a databased discussion of the existing state-of-affairs in regard to cooperative education is presented. Cooperative education is a school-supervised vocational program that combines in-school coursework with on-the-job work experience. In the third section of the paper, the major issues that would affect the desirability and feasibility of expanding cooperative-type experiences are discussed. In the last section, policy options that could facilitate such an expansion are set forth.

In regard to the usefulness of databased information for informing the topic, it appears particularly important to note the past level of participation in cooperative education programs. Historically, that level of participation has been consistently low. According to the Bureau of Occupational and Adult Education data, approximately 4 to 5 percent of the combined secondary and postsecondary enrollment in vocational education participate in cooperative education. Moreover, the participation rates vary significantly among the different occupational program areas. Although the present level of participation is low, it would appear, according to a recent national survey, that business/ industry is willing to expand their involvement in providing work experience opportunities.

When examining the desirability and feasibility of expanding cooperative-type work experience programs, some of the issues that appear to be particularly relevant are as follows:

- Maintenance of Program Quality. In order to increase substantially the amount of cooperative-type work experience, some of the traditional characteristics or requirements of the program will probably have to be altered. The inherent danger in increasing the flexibilty of arrangements in order to accommodate more students is a reduction in program quality. Under such conditions, cooperative education could easily evolve into a work release program, as opposed to a career development vehicle.

- Recruiting Students. Any attempt to expand cooperative-type work experience programs must consider the student's willingness and opportunity to participate. Presently, some students are not able to participate because of conflicts and others elect not to participate. Two of the reasons that influence this condition are as follows: (1) the stereotype that vocational education is only for the less accomplished student, and (2) for social reasons, some students do not desire to leave the school setting.

- Changes in the Workplace. The movement toward a high technology, information-based workplace should have significant implications in regard to expanding cooperative-type programs. Two considerations that would appear to be particularly important are as follows: (1) In some occupational areas, the cost of maintaining state-of-the-art equipment will become prohibitive for many educational institutions. In these cases, unless part of the training is conducted on the job site, the programs will become out-dated, and (2) on the other hand, the increase in proprietary concerns, the risks related to students working with extremely expensive equipment, as well as the fact that the knowledge base required to function in some of these positions will increase; will tend to have a constraining influence on the expansion of work experience programs.

- Readiness of Students to Benefit. All youth may not be ready to participate in cooperative-type programs. Certainly not all high school students possess the background in work adjustment skills to function effectively in the workplace. If a substantial expansion of cooperative-type programs is to occur, then it will probably be necessary to place more emphasis on good work habits and attitudes before the student becomes involved in on-site work experience.

- Legal Constraints. Although statutes regarding student work exprience vary state by state, few legal restrictions exist that would negate the expansion of cooperative-type programs. It appears that employers are hindered less by statutes restricting cooperative-type work experiences than by legal commitments arising out of providing such experiences.

- Cost to Education. The extra costs incurred in cooperative-type programs relate mainly to the salary and travel expenses for the staff who are responsible for coordinating the effort. However, it is unlikely that the overall cost of delivering more vocational training by means of on-site work expeirence would be greater than the cost of the present delivery system. The cost reductions

related to facilities and equipment should at least equal, if not exceed, the increased personnel costs.

- o New Approaches. If an expanded capacity for on-site work experience is to be established, then new types of employers will have to become involved, and new types of collaborative arrangements will have to be established--the notion that only a very limited number of ways to establish viable work experiences exist will not be useful. For example, the desirability and feasibility of establishing cooperative arrangements with the military should be examined.

- o Displacement of Workers. Over the last several years, a significant number of workers have been displaced from their jobs. Job displacement has been caused by a variety of reasons, and it would appear that it is not a short-term issue. Some would argue that a substantial expansion in cooperative-type programs would add to this displacement problem. Others would argue with that line of reasoning. The actual impact of a substantial expansion of cooperative-type program is unclear; however, it would appear that the potential for displacement in some types of jobs, in some types of industries cannot be totally ignored.

A substantial expansion of cooperative-type work experience programs appears unlikely unless policy changes are instituted to support that expansion. Before specific policy options are examined, however, it is useful to note some attendant considerations that will probably influence the viability of any option. First, in order to achieve a substantial increase in the involvement of business/industry, it is likely that such an increase will have to be part of a larger effort to improve collaboration between business/industry/labor. Second, if more resources are appropriated for cooperative-type programs for the recruitment and training of personnel in critical skill occupations, it is likely that a majority of those resources will be directed toward postsecondary education. Third, the same option will probably not work equally well in all situations. For example, at the secondary level, the expansion of cooperative-type programs will be particularly difficult in isolated rural and depressed inner city areas.

In the final section of the paper, alternative policy options are discussed. The options are presented under two categories--federal and state/local. The major topics of the policy options are as follows: (1) targeted tax credits, (2) flexibility in the minimum wage, (3) federal on-site placement opportunities, (4) legislation, (5) linkages with general and college curriculum, (6) increased latitude to local districts, (7) research and development, and (8) shared control with business/industry/labor.

INTRODUCTION

Traditionally, a close relationship has existed between vocational education and the business/industry community; however, today a number of social and economic forces are at work that will necessitate even greater future collaboration. Although the need exists to improve and expand the collaborative arrangements between vocational education and business/industry in a number of different areas, the increase of on-site work experience for vocational students is a topic of particular importance. Recent reports by the Carnegie Council on Policy Studies in Higher Education (1979) and the National Commission on Youth (1980) established by the Charles F. Kettering Foundation, have strongly recommended that a fundamental change, especially at the secondary level, is needed in vocational education--vocational education training should take place to a much greater extent at the work site.

If vocational education is to increase the amount of work site training, an existing paradox must be examined. On the one hand employers, educators, and students tend to be supportive of some type of work experience as an integral part of, or as a supplement to a student's educational experience. For example, in addition to the views expressed in the two previously noted reports, an analysis of national data from the High School and Beyond Survey indicates that a majority of high school seniors hold some type of out-of-school employment. On the other hand, only a very low percentage of vocational education students participate in cooperative education which is a school-supervised vocational program that combines in-school coursework with on-the-job work experience. The Bureau of Occupational and Adult Education (1978) data collected during the years 1972-1978 consistently indicated that only 4 to 5 percent of all secondary and postsecondary vocational students participated in cooperative education programs.

Given this apparent paradox, which issues need to be considered in order to address the desirability and feasibility of increasing the importance of on-site work experience in vocational training? Would the resulting problems in such an expansion, if it were deemed desirable, be approximately the same for all areas of vocational training? What are the implications of such an expansion for training in critical skill areas? What policy changes should be considered at the federal, state, and local levels to facilitate such an expansion?

The purpose of this paper is to explore such questions by examining the desirability and feasibility of expanding the effort committed to cooperative-type work experience programs.

Throughout the paper a special focus is given to the implication of such an expansion for training in critical skill occupations. As part of the examination, the second section of the paper provides a discussion of the current state-of-affairs in regard to cooperative-type work experience programs. In the third section, the major issues that would affect the desirability and feasibility of expanding cooperative-type work experiences are discussed. In the last section, policy options that could facilitate such an expansion are set forth.

BACKGROUND

Current Status of Cooperative Education Enrollment

Cooperative education contributes to three major functions of vocational education: job specific skill training, employability training and career exploration. In addition to these functions, it provides financial aid to the student. Historically, the proportion of vocational education students who participated in cooperative education programs has been consistently low. According to the data collected by the Bureau of Occupational and Adult Education (1978), which are the best available national data on cooperative education participation, approximately 580,000 (4.7 percent) of the combined 12,300,000 secondary and postsecondary vocational enrollment participated in cooperative education during 1978. Moreover, that rate of participation remained relatively constant from 1972 to 1978. Not only does a relatively small proportion of vocational students participate in cooperative education, but also the participation rates vary widely among the different occupational program areas. For example in 1978, marketing and distributive education had a participation rate of 29.9 percent; while in technical education programs, the participation rate was only 2.1 percent.

If consideration is to be given to expanding cooperative-type work experience efforts in vocational education, it is also useful to examine the specific occupational areas in which a majority of the students are presently obtaining their on-site experience. According to the 1978 BOAE data, the specific occupations that had the largest number of cooperative education students were as follows: general merchandising (66,000); filing and office machine operation (39,000); secretarial and related occupations (37,000); food services (21,000); food management and production services (19,000); food distribution (17,000); and typing and related occupations (16,000). Approximately 40 percent of all the cooperative education students were enrolled in one of these seven occupations. Moreover, these seven occupations are limited to three general career areas--retailing, secretarial, and food services.

From the federal perspective, an additional area of interest in regard to the desirability of an expanded effort in cooperative-type programs relates to the impact such an expansion would have on recruiting and training workers for critical skill occupations. These occupations, for example skilled machinist, are crucial to the basic productive capacity of the nation; however, because of the programming cost and in some cases limited demand, it may not be in the self-interest of any one institution to develop training programs for these occupations. In reference to federal support, if the nation's overall training capacity for critical skill occupations would be increased by expanding the efforts directed toward cooperative-type programs, then the desirability of such an expansion would be enhanced.

Since many of the critical skill occupations are in the manufacturing sector of the economy, an examination of the trades and industrial area and the technical program area can provide some insight into vocational education's present capacity for providing work experience opportunities in critical skill occupations. Because of its large overall enrollment, the trades and industrial area accounted for a substantial proportion (24.3 percent) of the overall 1978 cooperative education enrollment, but the participation rate for that area was, in an absolute sense, still low (7.2 percent); and, in the case of technical education, the 2.1 percent participation rate was the lowest among the seven traditional vocational program areas (Bureau of Occupational and Adult Education 1978).

In order to gain additional insight into the critical skill area, it is useful to examine some of the specific occupational areas within the trades and industrial program area, as well as the technical program area that would most likely be classified as critical. Machine shop cooperative enrollment, for example, accounted for 5.9 percent of the total 1978 machine shop enrollments of approximately 67,000. Cooperative enrollments were similarly low, again in the absolute sense, for machine tool operators (4.7 percent, N = 8,320), welders and cutters (2.7 percent, N = 87,061), and metallurgical technicians (0.4 percent, N = 1,120).

As a closing to this discussion, it is important to note the following point. Some would point out that although the participation rate in cooperative education is low, other vocational programs exist that provide work experience opportunities for the student. In the various states these programs have a variety of titles such as: work exposure, work study, and work experience. In addition to these efforts, work experience projects are included as a part of some secondary vocational programs. For example in agriculture, students have animal raising projects or in the case of marketing and distributive education, special school stores are sometimes established. The magnitude of these various efforts is difficult to estimate since no national data

are available; however, it is reasonable to suggest that these programs are not intended to be as comprehensive as cooperative education, and specifically important in this context, they tend not to provide the student with hands-on work experience in a real job setting.

Student Employment

An additional consideration in discussing the desirability and feasibility of expanding cooperative-type programs is the fact that many students presently hold some type of employment while they are attending high school. The High School and Beyond Survey indicates that in the spring of 1980, 63 percent of the surveyed high school seniors (N = 30,190) held some type of out-of-school employment. Given this substantial commitment, the assumption is often made that an untapped capacity for expanding cooperative education programs exists; however, a further examination of that assumption is warranted.

If, for example, the High School and Beyond data base is studied in regard to the job type, it is revealed that approximately 40 percent of the noncooperative education seniors who were employed, were working in one of the two following job categories: (1) store clerk (21.8 percent), and (2) waiter/waitresses (17.6 percent). Whereas 40 percent of noncooperative education seniors were employed in these youth-type jobs, only 8.7 percent were employed in more highly skilled positions such as jobs classified as skilled trade (5.4 percent) or unskilled/semiskilled factory positions (3.3 percent).

In regard to these data, if the major rationale for expanding cooperative-type programs is to provide an opportunity for students to develop good work habits and attitudes, then the fact that a high percentage of non-cooperative education students are already working at some type of job is important--even if most of these opportunities are limited to youth-type jobs. With 63 percent of the high school seniors holding out-of-school employment, the substantial expansion of cooperative-type programs for the principle purpose of achieving a greater development of good work habits may not be warranted. The case could be made that the part-time employment that youth secure on their own provides them an adequate opportunity to learn good work habits and attitudes. The point may be that a cooperative-type work experience program would be a better opportunity, but not that much better given the cost involved.

On the other hand, if the expansion is primarily directed toward developing specific occupational skills for entry-level employment, particularly in critical skill areas, then from a capacity perspective the absolute number of noncooperative education students who hold jobs is not as important as the type

of jobs involved. Since most of the jobs involved are not skilled positions, they do not necessarily represent an untapped reservoir for creating viable work experience opportunities for occupational specific skill training; nor, do the students involved necessarily represent a pool of clients seeking to enroll in cooperative education programs. In this case, the major implication is that a substantial amount of work would have to be directed toward developing cooperative-type work experience programs that would emphasize occupationally specific skill training.

Employer Involvement in Work Experience Efforts

In order to explore the feasibility of expanding work experiences for students, it is necessary to examine the willingness of employers to participate. In a recently completed national survey of employers' attitudes toward vocational education that perspective was investigated (Nunez 1981). The results of that survey form the basis for the information presented in this section.

Of the employers surveyed (N = 775) in the spring of 1981, 21.2 percent indicated they were presently involved in providing work experience opportunities for vocational students. An additional 52.8 percent of the employers indicated they would be willing to participate in such programs. According to the results of this survey, it would appear that the business/industry community is willing to provide work experience opportunities. However, what may be more important is the difference between the actual participation rate (21.2 percent) and the percentage of employers who are willing to participate. If a substantial expansion of cooperative-type programs is deemed desirable, then the reasons behind that difference would need to be addressed. Although no comprehensive data are available on that issue, the following reasons can be speculated: (1) lack of sufficient communication between the educational and business/industry establishments, (2) scheduling problems, (3) lack of strong union endorsements, and (4) actual or perceived paperwork problems.

POLICY ISSUES

Before effort is committed to expanding cooperative-type work experience programs, a number of issues related to the desirability and feasibility of such an expansion should be examined. Such an examination appears to be particularly relevant because of the low number of students presently involved in cooperative programs and because the determination of desirability and feasibility becomes more complex as one moves from providing work

experience for relatively few students in a limited number of occupational areas, to a large number of students in a wide variety of occupations within a diverse set of business/industry settings. This section examines several of those issues.

Maintenance of program quality. Cooperative education programs generally possess the following characteristics: (1) students are paid by employers for the work they perform; (2) industry personnel are required to evaluate student performance; (3) cooperative teachers work with business and industry personnel in ensuring that certain kinds of learning take place; and (4) the student has the opportunity for both out-of-school work experience and related in-class instruction.

In order to increase substantially the amount of cooperative-type work experience taking place, some of the traditional program characteristics or requirements will probably have to be altered. Employers, for example, may be willing to provide additional work experience opportunities only if there is more flexibility as to the amount of time the students would spend at the work site. Another example may be the need to increase the flexibility of the certification requirements for cooperative education teacher-coordinators. This latter consideration would likely be a serious issue since even without a substantial expansion the availability of qualified, industry-current cooperative education teachers is a concern.

An inherent danger in increasing the flexibility of arrangements in order to accommodate more students is a reduction in the quality of the work experience opportunity. Under such conditions, the cooperative-type work experience effort could easily evolve into a work release program, as opposed to a career development vehicle. This point is especially critical because mere participation in work experience programs appears not to be particularly effective in improving the employability of youth (Mangum and Walsh 1980). It seems that certain quality standards must be met if cooperative vocational education programs are to be of value.

Recruiting students. Any attempt to expand cooperative-type work experience programs must consider the student's willingness and opportunity to participate. Presently, some students are not able to participate, and others elect not to participate. These conditions are based on a number of considerations such as the following: (1) in some cases, the stereotype that any vocational education program is only for the less accomplished student is a deterrent; (2) for social reasons, some students do not desire to leave the school setting; (3) in other cases, students cannot arrange a schedule that permits participation in cooperative programs. This can be a particular problem for students who participate in school athletic programs, or for college bound

bound students who are taking advanced college coursework; and (4) in some areas, transportation from school to work can constitute a very pragmatic constraint. If a substantial expansion of cooperative-type programs is to occur, then these issues will have to be addressed.

Changes in the workplace. This nation is certain to experience major changes in the workplace during the 1980s. The movement toward a high technology, information-based labor market will be one of the key considerations that will shape that change. As John Naisbitt, a prominent business forecaster, recently noted--"the shift to an information-based society will be more profound than the Nineteenth Century shift from an agricultural to an industrial society" (1981).

This movement toward a high technology, information-based workplace should have significant implications in regard to expanding cooperative-type work experience programs. Two considerations that would appear to be particularly important are as follows: (1) in some occupational areas, the cost of maintaining state-of-the-art equipment will become prohibitive to many educational institutions. For these areas, unless part of the training is conducted on the job site, the programs will become out-dated; and (2) on the other hand, the increase in proprietary concerns in selected industries, the risk considerations related to students working with extremely expensive equipment, as well as the fact that the knowledge base required to function in some of the positions would increase; will tend to have a constraining influence on the expansion of work experience programs.

The movement toward a high technology, information-based labor market would appear to increase the desirability of expanding cooperative-type programs; however, it would also appear reasonable to suggest that such a movement will create some new problems that would affect feasibility.

Readiness of students to benefit. All youth may not be ready to participate in cooperative-type programs. Certainly not all high school students possess the background required to function effectively in the workplace. This issue is likely to become more critical in the coming years due to demographic shifts. As the decade progresses, a larger proportion of the secondary school-aged population will be from minority populations. Since minority youth are disproportionally represented in the disadvantaged category, and since, often by definition, disadvantaged youth are the ones who are least likely to have been exposed to the opportunities necessary to gain an understanding of good work habits and attitudes, it is likely that more emphasis will need to be placed on delivering this type of background. That is, if a substantial increase is to be achieved in the proportion of high school youth who participate in on-site work

experience opportunities, then training related to good work habits, work adjustment skills and human relations will need to receive increased emphasis before the student becomes involved with on-site experiences.

Legal constraints. Although statutes regarding student work experience vary state by state, few legal restrictions exist which would negate the expansion of cooperative-type programs. Even some "hazardous occupations" are open to cooperative students if they are enrolled in a vocational training program complete with a training plan, adequate on-the-job supervision, and regular visits by a vocational supervisor. In such cases, variances to legal restrictions can be granted. It appears that employers are hindered less by statutes restricting cooperative-type work experiences than by legal commitments arising out of providing such experiences. In Ohio, for example, employers of minors are required to send a written agreement to students and parents specifying the hours of work and rate of pay. In some areas an additional problem is the lack of agreement between state and federal laws concerning the employment of minors. Again, this type of problem is not a negating factor, but it does add to the "nuisance value" of cooperative-type work experience programs.

Cost to education. The extra costs incurred in cooperative-type programs relate mainly to the salary and travel expenses for the staff who are responsible for coordinating the effort. Time is required to meet with industry personnel to solicit their cooperation and to discuss the nature of the specific type of training arrangement that will be employed. Once work stations are established, additional time is required to match students to the various work stations and to conduct on-site follow-up visits after placement has taken place. While cooperative-type programs require extra costs related to personnel expenses and an expansion of the effort would add additional personnel costs, it is unlikely that the overall cost of delivering more vocational training by means of on-site work experience would be greater than the cost of the present delivery system. Although no national data are available, it appears reasonable to suggest that the cost reductions related to facilities and equipment should at least equal, if not exceed, the increased personnel costs.

New approaches. If an expanded capacity for on-site work experience is to be established, it is likely that new types of employers will have to become involved and new types of collaborative arrangements will have to be established--the notion that only a very limited number of ways to establish viable work experiences exist will no longer be useful. For example, the desirability and feasibility of establishing arrangements with the military will need to be examined. The potential to establish cooperative work experience sites on military installations

could be substantial; the opportunity, particularly for post-secondary students, for training in critical skill areas would be an especially important focus. The need for new types of arrangements will be affected by the type of employers and the level of occupations involved. For example, in the medical internship model, participants are often expected to work for very low pay, given the type of work, or to work without pay. The experience they receive is considered to be the major remuneration for the work. In other cases, it may be necessary to provide some type of financial incentive in order to create a feasible context for business/industry involvement. The critical point is that in order to substantially expand the cooperative-type work experience effort, new approaches will need to be developed and instituted.

Displacement of workers. Over the last several years, a significant number of workers have been displaced from their jobs. This displacement has been caused by a variety of factors including: (1) a general downturn in the economy, (2) technological changes, (3) relocation of firms, (4) shifts in consumer demand patterns, and (5) foreign competition. Because of the nature of some of these factors, it would appear that the displacement issue is not a short-term one. Some would argue that a substantial expansion in the cooperative-type work experience programs would add to this displacement problem. Others would argue with that line of reasoning. The actual impact of a substantial expansion appears unclear; however, it would appear that the potential for displacement for some types of jobs in some types of industries cannot be totally ignored.

POLICY OPTIONS

A substantial expansion of cooperative-type work experience programs appears unlikely unless policy changes are instituted to support that expansion. This judgment is based, in part, on the historic fact that consistently only a low percentage of vocational students have been involved in cooperative education programs, with that participation being concentrated mainly in a limited number of occupations.

As a context for examining policy options, it would appear useful to note, in addition to the educational issues in the previous section, some of the societal trends that are likely to influence the desirability and feasibility of a substantial expansion of cooperative-type work experience efforts.

Some of the trends of particular importance in regard to determining desired directions for vocational education are as follows: (1) more discretion will be extended to state and local governments in the utilization of federal dollars, but less

federal dollars will be specifically earmarked for educational purposes; (2) the general trend toward fiscal conservatism may mean that the strong local financial support vocational education experienced during the 1970s may not continue during the 1980s; (3) it is likely that competition within the total training enterprise will increase during the 1980s--private schools and the military will become increasingly strong competitors for the available training dollars, and many industries will expand their own training activities; (4) there will be a sharp decline in the number of sixteen to twenty-four year olds in the population. The number of students enrolled in high school is projected to drop from 15 million in 1980 to approximately 12.5 million in 1990 (Lewis and Russell 1980); and (5) advances in technology, coupled with the incentives for capital investment in the policies of the Reagan administration, should create a boom period for the introduction of high technology equipment in the business/industry community.

Whether or not it is desirable to increase the emphasis on cooperative-type work experience is the basic question. The material presented in the previous sections of this paper was directed toward illuminating that question. The purpose of this section is to delineate policy options that hold promise for facilitating an expansion of cooperative-type work experiences given that such an expansion is deemed desirable. The options are presented under two categories--federal and state/local. Before these options are discussed, however, it is beneficial to note some attendant considerations that will probably influence the viability of any option.

In examining federal and state/local options, the following general considerations are noteworthy. First, in order to achieve a substantial increase in the involvement of business/industry in providing cooperative-type work experience opportunities, it is likely that such a increase will have to be achieved as a part of a larger effort to improve the collaboration between education and the business/industry community. For example, if vocational education plays a bigger role in providing specialized training programs for specific industries or firms and those efforts are well received, then a better basis for closer cooperation in regard to cooperative education will have been established. Second, if more resources are appropriated for using cooperative-type work experience as a vehicle for recruiting and training personnel for critical skill occupations, it is likely that a majority of those resources will be directed toward postsecondary vocational education. Third, the same option will not work equally well in all situations. For example, at the secondary level, the expansion of cooperative-type programs will be particularly difficult in isolated rural and depressed inner city areas. The lack of a diversified employer base in those areas calls for expensive solutions based on extensive transportation or in-residence efforts.

Some of the suggested policy options at the federal and state/local levels are provided in the following paragraphs.

Federal Options

Targeted tax credits. The effectiveness of the Targeted Jobs Tax Credit program as an incentive to business/industry participation could be reexamined. With certain modifications, it might prove to be beneficial to reinstitute the program's applicability to all students who participate in cooperative education work experience. One possible modification would be an increase in the size of the tax credit for those employers who provide positions for students in critical skill jobs. Two additional considerations are as follows: (1) the need to institute at both the federal and state level an information campaign concerning the tax credit program, and (2) the need to minimize the associated paperwork.

Flexibility in minimum wage. The impact of changes in the minimum wage on employment has been the subject of much debate. However, for some industries and for some jobs, particularly those involving higher skill demands, the probability of business/industry involvement in cooperative-type work experience efforts would seem to be reduced if the minimum wage must be paid. For the higher skilled jobs, it is likely that the vast majority of the work experience opportunity is spent on training; whereas, for less skilled jobs a balance is achieved between training and productive work. Flexibility in regard to paying the minimum wage, coupled with other financial incentives, could encourage the employer to provide such opportunities. Presently, employers can apply to the Department of Labor for a learner's waiver and pay 75 percent of the minimum wage. If this option were to be used as a major strategy to expand cooperative-type opportunities, the past successes and failures of this waiver provision should be carefully studied. In this case, the cautions associated with changes in the minimum wage standard relate mainly to the potential for youth exploitation and the possibility of displacement of older workers if the flexibility was extended inappropriately.

Federal job opportunities. The federal government could authorize and encourage, via a variety of mechanisms, the use of federal government jobs as cooperative-type work experience opportunities. Special attention could be given to the opportunities on military installations. In regard to the military such efforts could have positive side effects related to recruitment and public image development. The limitation to this option is that benefits would be derived mainly by those communities located near major federal installations.

Vocational education and related legislation. If it is deemed desirable to place increased emphasis on cooperative-type work experience in the federal legislature, two considerations are noteworthy. First, as noted earlier, a substantial increase in the involvement of business/industry in providing cooperative-type work experience opportunities is likely to be dependent on the overall improvement of the collaboration between vocational education and business/industry. Given that assumption, strategies in the federal legislation that encourage such collaboration would also facilitate the expansion of cooperative-type programs. Over the long run, such an indirect strategy could prove to be a more effective option than a direct approach, such as establishing a special funding category for cooperative-type programs.

Second, if states were to attempt to expand cooperative-type programs, it is likely that innovative program guidelines and funding strategies would be required; therefore, flexibility in the federal rules and regulations would be required to facilitate such innovation. For example, it may not be useful to maintain the present position that states should give priority to funding cooperative education programs in areas that have high rates of school drop outs or youth unemployment. This latter consideration could be particularly salient if the federal intention were to maximize the potential for cooperative-type programs for recruiting and training personnel in critical skill occupations. The geographic areas of high youth unemployment, for example, tend not to be the areas that have a concentration of high technology firms.

An additional topic that would be associated with an expansion of cooperative-type work experience efforts is the "enterprise-zone" concept. A symbiotic relationship could be established if the enterprise-zone legislation is passed. As noted earlier, inner city areas, because of the lack of business/industry, would be a particularly difficult, yet important area in which to institute an expansion of cooperative-type programs. If enterprise-zones are established and they prove to be effective for attracting firms, then a better base would exist in the inner cities for expanding cooperative-type programs. From the other perspective, the existence of a better trained work force in the immediate area could assist in making the enterprise-zone concept effective.

State/Local Options

Closer linkages with general and college curricula. If a substantial increase is to be achieved in the number of secondary level students who participate in cooperative-type programs, then the linkages between vocational education and the other curriculum areas must be increased. One strategy for achieving this

goal is to design cooperative-type programs that can fulfill not only vocational education requirements, but also requirements in academic areas; that is, during the on-site work experience students would address predetermined competencies in, for example, mathematics, as well as competencies in their selected occupational area. To institute such an option in most states would require both policy and operational changes. Caution would be required in developing the new guidelines especially in reference to the potential "watering down" of the student's vocational and academic preparation.

Increased latitude to local districts. In some states very rigorous guidelines have been established at the state level for the conduct of cooperative-type programs. If a substantial expansion is to be instituted, particularly an expansion into industries and occupations heretofore not emphasized via the cooperative approach, then a relaxing of these guidelines could prove to be useful. For example, in some cases it would appear possible to change the state regulations on the required background required for certifying cooperative teachers and yet maintain program quality. The obvious disadvantage associated with this option is its possible negative impact on program quality. The possibility also exists, however, that a relaxation of state guidelines could lead to improved program quality since new approaches would be instituted.

Research and development. To the extent that local and state vocational educators seriously consider the importance of expanding cooperative-type work experience efforts, there will be a series of questions to be confronted. Many of these questions can be anticipated and research and development can be undertaken to provide initial answers. For example, three such questions to be faced are as follows: (1) how can cooperative-type work experience opportunities be created for training in critical skill occupations; (2) should separate guidelines and standards be established for postsecondary programs; (3) what types of incentives are most effective for encouraging business/industry participation; and (4) what are the effects of cooperative-type training on subsequent labor market experiences?

Shared control with business/industry/labor. The previously described state/local options could facilitate the expansion of cooperative-type programs; however, some would argue that a substantial expansion would depend upon the education establishment developing and instituting mechanisms for sharing the control of such efforts with business/industry/labor. The option would entail a new partnership being formed; the role of business/industry/labor would no longer be primarily advisory in nature, instead the major policy and planning decisions would be made in a collaborative framework.

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